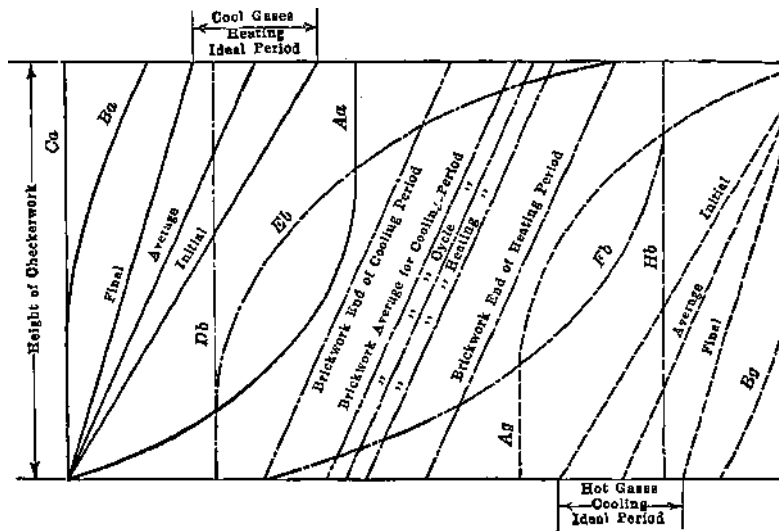


the furnace temperatures and, due to the heat-storage capacity of the brick, a smoother curve is obtained. The temperature gradient between the two curves includes the resistance of 1 in



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FIG. 155.—Curves Showing the Temperature Changes in the Hot Gases Cooling, the Cool Gases Heating and the Checker Brick.

These curves showing these temperature changes during the normal or ideal period or cycle are indicated by the legends. The abnormal cycle or the changes due to overheating and overcooling are marked with reference letters. The latter condition is the one that occurs when a cold checker is heated in starting.

- Ag* cooling curve of hot gases passing through a cold checker;
- JBff* cooling curve of hot gases passing through a checker with too long a heating period;
- Off* cooling curve of hot gases passing through a checker after it has absorbed its maximum amount of heat;
- Aa* heating curve of cold gases passing through an overheated checker;
- Ba,* heating curve of cold gases

passing through a checker with too
 long a cooling
 period;
Co, cold gases passing through a
 cold checker;
Db cold checker prior to heating;
Eb checker initial heating curve.
 The upper portion after becoming
 heated transmits heat to lower portion by
 conduction;
Fb checker overheated in upper
 portion. Heat is transmitted by
 conduction to
 raise temperature of lower
 portion;
Hb overheated checker prior to
 cooling.

of brick as well as any surface
 resistance which may exist,
 and
 this difference rarely exceeds
 150°. This would seem to
 indicate
 that a heat differential of less
 than 300° might be obtainable
 under
 good working conditions from
 gas to gas.